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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,884	08/28/2001	Joan Manuel Garcia	60003206-1	7849

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

NGUYEN, LAM S

ART UNIT	PAPER NUMBER
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2853

MAIL DATE	DELIVERY MODE
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08/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/941,884

Applicant(s)

GARCIA ET AL.

Examiner

LAM S. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4,5,7,11,13,14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,4,5,7,11,13,14 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 2, 4-5, 11, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arquilevich et al. (US 6137592) in view of Dunand (US 6398334).

Referring to claims 2, 4, 11:

Arquilevich et al. discloses a diagnostic method for visual detection of poor media advance calibration in an ink-jet printing system (*column 3, lines 32-42*)

entering a diagnostic mode of the printing system in which mode normal printing jobs of the printing system are not printed (*column 6, lines 20-45: The print controller causes a test plot to be printed onto the media sheet to perform the calibration process*);

printing different areas of a diagnostic pattern at different passes of one or more ink-jet printheads with a controlled amount of media advances between the passes between the printing of the different areas (*FIG. 5 and column 6, lines 35-45*);

examining the diagnostic pattern is conducted visually by a user (*column 3, lines 28-42*);

wherein said printing different areas comprises:

printing a first area comprising a first set of pixels printed during a first

pass; conducting a plurality of incremental media advances; printing a further area comprising a second set of pixels printed during a further pass, wherein said different areas are nominally aligned along a horizontal line (*FIG. 5 and column 6, lines 35-45*).

Arquilevich et al., however, does not teach wherein media advance errors resulting from said plurality of media advances are accumulated between printing said first area and printing said further area and examining the diagnostic pattern conducted by an optical sensor to determine whether an accumulate media advance error is sufficiently objectionable to take corrective action.

Dunand teaches a process of printing on a printing medium in which the printing medium is advanced plurality of times in order to form a printed pattern by an ink jet printing system, wherein an advancing error is accumulated, and the printed pattern is examined to determine whether the accumulate media advance error is sufficiently objectionable to take corrective action (*column 10, line 22-26: If the accumulated advance error reaches a half of a nominal advance, the program will choose to use the reference mark to print the next band*), wherein the step of examining the diagnostic pattern is conducted by an optical sensor (*column 7, lines 39-42*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time invention was made to modify the method disclosed by Arquilevich et al. to include determining whether an accumulate media advance error is sufficiently objectionable to take corrective action as disclosed by Dunand. The motivation of doing so would have been to correct misalignment defects caused by the differences between the real advance of the printing medium and its nominal advance as taught by Dunand (*column 1, lines 8-10*).

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2. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arquilevich et al. (US 6137592) in view of Dunand (US 6398334), as applied to claims 2 and 11, and further in view of Maeda et al. (US 6334659).

Arquilevich et al., as modified, discloses the claimed invention as discussed above except that wherein said step of printing different areas of a diagnostic plot includes: applying a diagnostic multi-pass print mode mask, wherein a plurality of carriage passes are employed to print the area subtended by a printhead nozzle array, the diagnostic print mode mask comprising a rectilinear grid of pixels, with each pixel location having a number associated therewith, the number representing the pass in which the pixel will be printed, and wherein said different areas nominally aligned along a horizontal line include a first set of pixels on a row of said grid, and a second set of pixels on said row, and wherein said first set of pixels is printed on a different pass than said second set of pixels is printed.

Maeda et al. discloses that wherein said step of printing different areas of a diagnostic plot includes: applying a diagnostic multi-pass print mode mask, wherein a plurality of carriage passes are employed to print the area subtended by a printhead nozzle array (*FIG. 7A*), the diagnostic print mode mask comprising a rectilinear grid of pixels (*FIG. 10*), with each pixel location having a number associated therewith (*FIG. 10*), the number representing the pass in which the pixel will be printed, and wherein said different areas nominally aligned along a horizontal line (*FIG. 10C: areas printed by #1 pixel and #3 pixel are aligned along a horizontal line*) include a first set of pixels on a row of said grid, and a second set of pixels on said row (*FIG. 10C: the #1 pixel set is on the same row with the #3 pixel set*), and wherein said first set of

pixels is printed on a different pass than said second set of pixels is printed (*FIG. 10C: the #1 pixel set and #3 pixel set are printed on the different passes*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to include the applying of a diagnostic multi-pass print mode mask as disclosed by Maeda et al. into the advance control process as disclosed by Arquilevich et al., as modified. The motivation of doing so would have been to reduce the formed bind pitch to less than paper transport width without increasing the number of scans; thus, the banding artifacts are imperceptible as taught by Maeda et al. (*column 4, lines 4-10*).

Response to Arguments

Applicant's arguments filed 06/20/2007 have been fully considered but they are not persuasive.

The applicant argued that Arquilevich did not teach wherein the different areas are nominally aligned along a horizontal line. In response, the examiner cites that as clearly shown in Arquilevich's FIG. 5, the test plot has a plurality of non-overlapping areas formed using a different value of the swath height error adjustment (*claim 1; column 10, lines 35-40*). The non-overlapping areas read on the claimed different areas because they are formed at different passes (swaths) of the inkjet head (*FIG. 2, element 38*) with the pass (swath) height error adjustment, wherein in a scanning type ink jet printers, a media sheet is fed incrementally at a controlled amount as a printhead scans across the media sheet (*column 1, lines 13-16*). Moreover, Arquilevich's FIG. 5 also shows the non-overlapping areas aligned along a horizontal line.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

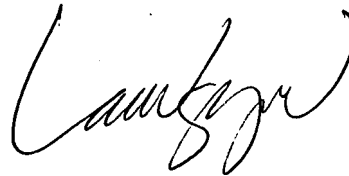
Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S. NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Lam Son Nguyen', with a stylized, cursive script.

LAM SON NGUYEN